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BRITISH COLUMBIA AND ITS GOLD.

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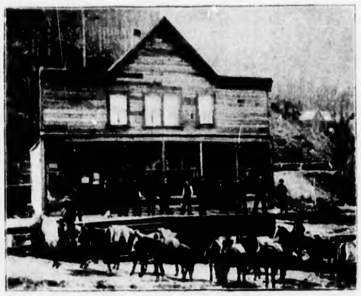
Author of "The Rise and Growth of the English Nation."

The interest and the excitement aroused some years ago by gold discoveries in Australia and South Africa will, in all probability, be transcended by what is now being brought to light concerning the enormous auriferous wealth of British Columbia.



STARTING FOR THE MINES.

That province has an area of 385,300 square miles, or more than three times the size of the United Kingdom. Dr. Dawson, of the Government Geological Survey, and Mr. William Ogilvie, of the Land Survey, testify that it is the largest, as it seems to be the richest, goldfield ever known. Full particulars of the various districts are supplied in the last report of the Hon. James Baker, Minister of Mines.

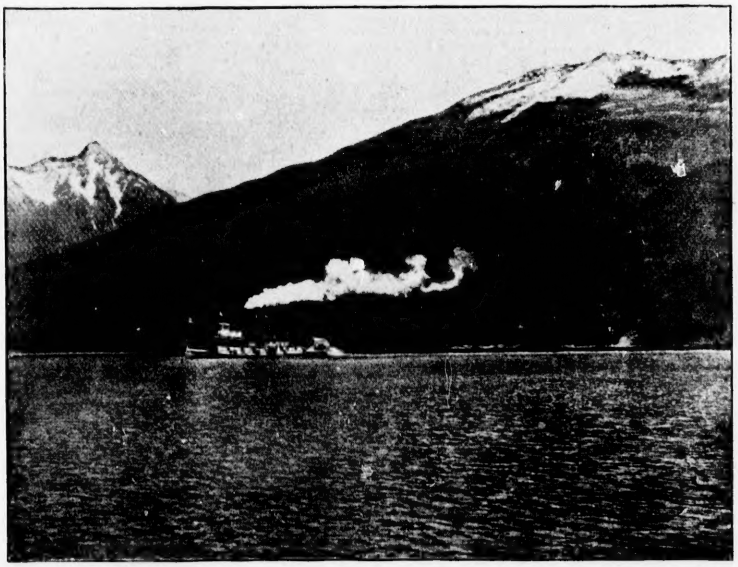
As to the title to mineral claims, he says :—"The mineral lands are open to location by any person having a free miner's license—cost $5 per year—but only one claim, 1,500 feet square, can be staked off on a vein or ore deposit by one person, who must conform to the regulations of the Mineral Act. No vein or ore can be mined beyond the boundaries of such claim, *i.e.*, these locations have no extra-lateral rights, except those claims located prior to 1892, on which the vein or deposit can be followed down on its dip beyond the side line. Possessary rights are secured by doing $100 worth of work per year on the claims, or by paying this amount annually into the Treasury of the Province. When $500 worth of work has been done, the owner of the claim can then secure full title by asking for and securing a Crown grant of this land, after which no annual assessment is required."

Of the rivers of British Columbia, the principal are the Fraser, the Columbia, the North and South Thompson, the Kootenay, and the Peace. The Fraser is the great watercourse of the Province. It rises in the northern part of the Rocky Mountains, runs for about 200 miles in two branches in a westerly direction, and then in one stream runs due south for nearly 400 miles before turning to rush through the gorges of the coast range to the Straits of Georgia. Its total length is about 740 miles. On its way it receives the waters of the Thompson, the Chilicoten, the Lillooet, the Nicola, the Harrison, the Pitt, and numerous other streams. For the last eighty miles of its course it flows through a wide alluvial plain, which has mainly been deposited from its own silt. It is navigable for river boats to Yale, a small town 110 miles from the mouth, and again for a smaller craft for about sixty miles of its course through the interior, from Quesnelle Mouth to Soda Creek ; and larger vessels, drawing twenty feet, can ascend to New Westminster, situated about fifteen miles from the mouth.

The Columbia is a larger river rising in the south-eastern part of the Province, in the neighbourhood of the Rocky Mountains, near the Kootenay Lake. This lake is now traversable by regular steamboat service. The Columbia runs north beyond the fifty-second degree of latitude, when it takes a sudden turn and runs due south into the State of Washington. It is this loop made by the abrupt turn of the river that is known as the "Big Bend of the Columbia." The Kootenay waters fall into the returning branch of this loop some distance south of the main line of the railway. The Columbia drains a total area of 195,000 square miles.

Near the town of Lillooet, where the "Golden Cache" and other mines are being operated, considerable milling gold is found, and promising quartz veins are being developed. As machinery on the most improved principles and capable of treating refractory ores has been introduced, large numbers of miners are being attracted. Kamloops was originally a Hudson's Bay trading post, but it has become an important town. Rich mineral discoveries have recently been made within three miles, carrying gold and copper. Concerning this region, the Minister of Mines observes in his report :—"The general trend of the veins is east and west. They lie in a diorite formation, and exist under similar conditions to those found in the Rossland district, accompanied by the characteristic iron capping, which is a prominent feature of these deposits. The ore is also of the same character, being chalcopyrite, assaying from five to thirty per cent. in copper, and from $4 to $8 in gold. The vein matter is diorite. The lodes average in width from four to twenty feet, and the locations now extend over an area of about twenty square miles. Fuel is abundant, and an unrivalled climate, in addition to short railway communication, completes the advantages which very few mining camps possess."

The Harrisen Lake district, in the south-west portion of the Province, was only discovered in October, 1895. The Minister of Mines reports : "Formation of country rock syenite and ferruginous slate, in the contact between which is a belt of highly silicious schist intermixed with quartz, both impregnated with iron and copper sulphurets, forming a mineral zone of considerable width, and carrying gold and silver, values averaging on the Black Diamond claim, where it is shown up to advantage, about $4 per ton, a capital concentrating proposition, being capable of reduction from fifteen to twenty to one, with probably greater values when more depth is reached. The general direction of this belt is north-west and south-east. In the ferruginous slate and country rock lying to the north of the syenite are to be found belts of serpentine, metamorphic slates. Very large lodes of mineralised quartz, all having the same general direction, north-west and south-east, and extending for a great distance in this belted manner, occasionally, however, showing on the surface traces of disturbance in the shape of folds, breaks, &c., sometimes in waves."



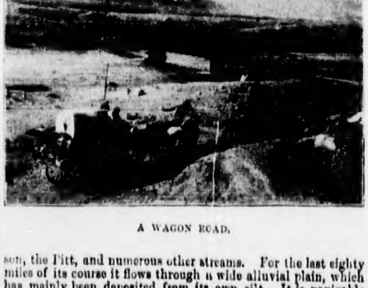
KOOTENAY LAKE, BRITISH COLUMBIA.

West Kootenay district lies east of Yale, and extends north and south from the Big Bend of the Columbia River to the international boundary, embracing, with East Kootenay (from which it is separated by the Purcell range of mountains) an area of 16,500,000 acres. West Kootenay is chiefly remarkable for its great mineral wealth. Marvellously rich deposits have been discovered in different sections, and new finds are almost daily made. There is still a large area not prospected which will doubtless yield even more phenomenal returns of precious ores. It is a country of illimitable possibilities, but is only passing the early stages of development, when the vast area of hidden wealth is considered. Great strides, however, have already been made, and many of the camps, notably in the Trail Creek, Rossland, Kaslo-Slocan, Ainsworth and Nelson [illegible]s, are completely equipped for mining operations. In [illegible], Big Bend, and other parts of this rich region, minin[illegible]ly carried on, and as capital is acquired through th[illegible]g of the mines, or is brought in, the output of ore will be immensely increased. The output of ore in 1896 approximated $6,000,000, and with the additional transportation and smelting facilities now being afforded this amount will doubtless be largely increased. Capitalists and practical miners have shown their unbounded confidence in West Kootenay by investing millions of dollars in developing claims, equipping mines, erecting smelters, building tramways, &c., and an eminent American authority speaks of it as "the coming mining empire of the North-West." In 1896, the population of West Kootenay was trebled, and the year witnessed the creation of a number of new mining camps which astonished the world with their phenomenal growth and prosperity. There are valuable timber limits in different parts of the country, and saw-mills are in operation.

SANDON, BRITISH COLUMBIA.

There are numerous mines at work in different sections of the district, chiefly in the Lower Kootenay country, in the north of which are the Kaslo-Slocan mines ; in the centre, those around Nelson and Ainsworth, and in the south those of the Goat River and Trail Creek districts. There are no richer goldfields than those of the latter mentioned district, of which Rossland is the centre. Several mines are already operated extensively and are paying large monthly dividends, while new discoveries indicate that the full richness of this region cannot yet be even approximately estimated. Large shipments of ore are being made from leading mines, while the "Centre Star" and other properties have large quantities on the dump ready for shipment. With increased home smelting facilities, the output of the camp will be immensely increased.

The West Kootenay district realised from its mines nearly £2,000,000 sterling last year, and the "Slocan Star" has paid monthly dividends as high as £20,000. The Slocan district has a remarkable record. Its area is only about 15 by 25 miles, but there are about 50 mines from which regular shipments of ore are made. The average last year contained 117 ozs. of silver per ton and 52 per cent. of lead, and the mine owners are said to have realised a net profit of $75 per ton. The most notable silver mines are in the famed Slocan district, from which large shipments of ore have been and are being made—the general character of its ore being high grade galena. The principal mines, besides the "Slocan Star," are the "Enterprise," "Whitewater," "Alamo," "Two Friends," "Dardanelles," "Washington," "Payne," "Idaho," "Mountain Chief," and "Grady" groups. The "Wonderful," two miles from Sandon, is the only hydraulicing galena mine in the world. The Slocan is admitted to be the richest silver mining region in



A WAGON ROAD.

A MINING CAMP.

the world to-day, and has the advantage of excellent transportation facilities. The Toad Mountain district around Nelson, and south of it, has a distinct gold, silver, and copper belt, the ore being of that character known as "gray copper."

A number of free milling gold claims have been located near Nelson recently. Hydraulicing is also carried on at Forty-Nine Creek with profitable results. During the summer of 1896

MAP OF CARIBOO DISTRICT.

some of the richest discoveries in the Kootenay were found in the Salmon River country, between the Lower Kootenay River and the international boundary. In the north, in the Illecillewaet, Fish Creek and Trout Lake districts are rich properties which are being worked. Dr. Dawson says that the gold in Cayoosh Creek, in the Lillooet district, is worth $18 per ounce. In this district are located the "Golden Cache," the "Golden Stripe," the "Excelsior" and other extremely rich mines. The well-known "Blue Bell," mine has reported assays of $1,673 per ton. The "Waverley," on Downie Creek, was recently floated for £100,000. "Le Roi," near Rossland, may fairly be ranked amongst the great gold mines of the world. It was opened up four or five years ago in a small way by men of limited means. To-day it is paying £10,000 per month in dividends.

In the "Official Handbook of the Dominion of Canada," just issued by the Government Printing Bureau at Ottawa, it is stated: "There are no richer goldfields than those of which Rossland is the centre. Several mines are already operated extensively, and are paying large monthly dividends, while new discoveries indicate that the full richness of this region cannot yet be even approximately estimated. Large shipments of ore are being made; and with increased home-smelting facilities the output will be immensely increased. On Kootenay Lake are the well-known 'Ainsworth' group, which are large shippers of ore. There are a number of rich mining properties in this section, among others the 'Silver King,' purchased for $1,500,000 by an English company, with its own smelter at Nelson."

Many such instances might be cited, but the above will serve to indicate the character of the wide district. All that is needed is the investment of British capital to remove the rocky barriers behind which lies this golden wealth. The total output since the first discovery of gold, even before new mineral districts were opened up by the engineering enterprise, the vast financial resources, and the administrative energy of the Canadian Pacific Railway, was estimated at $60,000,000, but the work has been practically mere scratching of the surface, and only superficial knowledge has yet been obtained. As all the conditions are fully realised, with the immensity and richness of the treasure fields, and the important fact that they are entirely under British control, it is reasonable to expect a large influx of capital. The Provincial Mineralogist states that the value of the ore yielded by the mines in 1896, being the last completed return, was $7,146,425, against $2,608,608 in 1890.

With the introduction of quartz mining, which must speedily take place, as the placer or alluvial mining becomes superseded, there will necessarily be the erection of large smelting works similar to those which are found at Pueblo, Denver, and other places at Colorado. In the Cariboo district there has already been a large expenditure upon hydraulic machinery, and great efforts are being made to reach the bottom of deep tunnels where surface workings have been carried on. The development of the mines has been retarded in the past by the lack of smelting works, but this want has been to a large extent overcome by the erection of such works at Pilot Bay, which alone have turned out about 300 tons of bullion per month. There is another smelter at Nelson, and matting works at Trail, while the owners of other properties are building concentrators and constructing tramways to handle the large output. In the treatment of ores by smelters, it requires on a general average 12 tons of coke to treat 88 tons of ore. The coke and the ore must be brought together at some convenient point where smelters can be erected. It is of course easier and cheaper to haul 12 tons of coke so as to treat 88 tons of ore on the spot than it is to carry the latter a great distance to be treated by 12 tons of coke. One great collateral advantage is that a variety of ores are being discovered which are highly suitable for fluxing.

For the purpose of acquiring and developing ninety-six of what are believed to be the most valuable and promising mining properties in the province, and also to acquire from time to time, as opportunities offer, similar properties, the Associated Gold Mines of British Columbia, Limited, was incorporated on January 14th, 1898, with a capital of half a million. It is also intended to carry on the gainful business of transport and trading in machinery, tools, mining implements, food, clothing, and all the necessaries of life and industry, the profits of which are likely to be enormous. The properties which have been acquired, promise, in the judgment of competent authorities, to yield extraordinary results. The most valuable claims have been selected, after a thorough inquiry and investigation by experts, spread over a lengthened period. The encircled numbers on the sketch plan show the approximate locations. One important and promising feature is their proximity to mines like those mentioned below, which have yielded and are continuing to yield enormous wealth. Another is the abundance of wood and water; an absolute essential to profitable mining, and for lack of which so many ventures have failed. A third feature is that the ninety-six mines are spread over a considerable area, and that each district has its own special recommendations. The districts comprise Lillooet, Yale, Kamloops, Lardeau, Kootenay, and the islands and inlets on the Pacific Coast above Vancouver. Many of the latter being close to navigable waters, the ores can be transported to the smelters at slight cost. Quartz developments are being made on claims situate on Texada Island, and from one of these shipments have gone on for several months. All these ores carry gold, and some of it is free milling.

One important and promising feature is the proximity of the Associated Mines to those which have yielded, and are continuing to yield, enormous wealth. Two of the mines, for instance, adjoin the exceedingly valuable "Tangier" Mine, brought out by the Goldfields of British Columbia, Limited, and are contiguous to the "Waverley," another rich mine promoted by the same Company. The Tangier was brought to such a state of development by the parent concern that at the statutory meeting on February 17th, 1898, an announcement was made of a shipment of fifteen tons of ore valued at about £350. It was also stated that numerous assays show that the vein, of fifteen feet in width, carries £6 worth of gold and over one hundred ounces of silver per ton. The strong presumption is that this rich vein runs through the adjacent land owned by the Associated Gold Mines of British Columbia.

Another group of three are close to the famous "Silver Cup," which is said to be yielding £10,000 a month. Two others adjoin "Morning Glory," the assay of which is £200 per ton. Two more are contiguous to the successful "Iron Mask." The "Summit Group" of five properties adjoin the "Grant Govan," and also the "Waverley." Another, the "Trahedrah," in Cayoosh Creek, is next the "Golden Stripe" and the "Excelsior." Two others are near the "Lucky Strike," and seem destined to become famous in the annals of mining, for the "leads" have been traced 3,000 feet, and are workable all the year. One more adjoins the well-known "Raven" and the "Van Anda"; and, indeed, all the ninety-six mines forming the Associated are in the immediate proximity of other proved mines and are located on or near the Canadian Pacific Railroad, or in the vicinity of lakes and rivers, so that transport facilities are great.

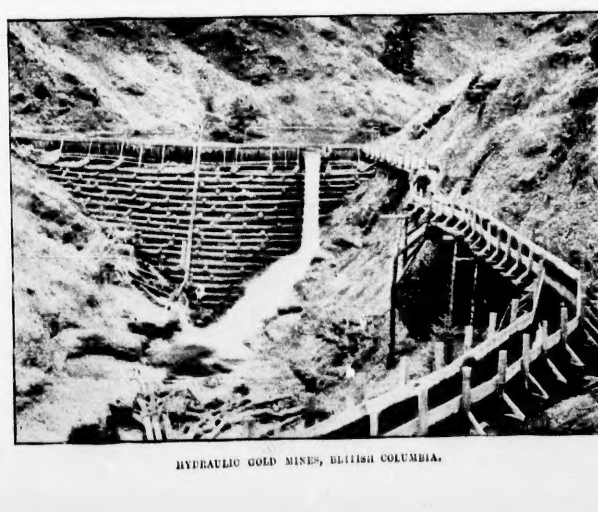
IN THE MOUNTAINS OF BRITISH COLUMBIA.

It is intended with all speed to bring out a series of subsidiary companies, to which single mines, or small groups of mines, will be sold, for the purpose of fully developing and working them. Within about a month, for instance, it is expected that this will be done with the "Robert E. Burns Mine," as the necessary arrangements are in a forward state. That property is situated in the Selkirk Mountains, near Golden, on the Canadian Pacific Railroad. Several veins outcrop on the claim, and one of them is from four to eight feet thick. Thirty assays made from ore on the ground showed an average of $50 per ton in gold, and exceedingly favourable reports have been made on the property by three eminent mining engineers.

Besides the above, upwards of twenty of the Associated Mines have been so far developed as to prove beyond all question their permanent dividend-earning capacity, and arrangements are in progress to constitute separate companies for acquiring and working them. All the properties are so advanced that clean, good ore can be shipped in almost any quantity immediately, with what the responsible agents and experts in British Columbia state will prove to be large and satisfactory results. Of course the profits on the re-sale of these mines and of the others to follow will accrue to the shareholders in the parent company.

Not a little of this great activity in mining is due to increasing facilities for transport which are provided by railway and steamboat companies. These, with numerous wagon roads, built or projected, will render any part of the Kootenay district easy of access all the year round. The Canadian Pacific Railway has completed its extension from Revelstoke to Arrow Head, adjacent to which is the Lardeau district, rich in galena ore and gold quartz, and placer claims on which active work is being done. From this point to Trout Lake a good road has been built by the Provincial Government. The Crow's Nest Pass Railway will stimulate activity, for there is no doubt but that the rich mineral lands abutting will be thoroughly explored as the means of egress and ingress improve. One hundred miles of that railway are already built, and 150 more are expected to be finished by the end of the present year. Wagon roads have been made from various central railway points into the different mining districts, and many others are about to be built. Large fields of coal and oil are being developed. Cheap fuel will make it possible to treat enormous quantities of low-grade ores, which now lie undisturbed. If the expectations formed from surface indications are realised, the oil-fields of East Kootenay will probably furnish an important and lucrative industry.

Kootenay is now easily entered from two directions, and almost any part can be reached with despatch and comfort—an



HYDRAULIC GOLD MINES, BRITISH COLUMBIA.

agreeable surprise to all entering the country for the first time. First.—From the north, at Revelstoke, on the main transcontinental line of the Canadian Pacific Railway between Montreal, Winnipeg and Vancouver, on the Pacific Coast, a branch line runs down the Columbia River thirty-two miles to Arrowhead, at the north end of Upper Arrow Lake, whence—(a) A small steamer runs up the north-east arm of Evansport, the port of entrance to the Lardeau and Trout Lake Districts. (b) The large stern-wheel steamers of the Columbia and Kootenay Navigation Company (for which Company a large boat is being built at Nakusp, to be ready to go into commission next spring, as the traffic has grown quite beyond the capacity of the present

ROSSLAND, BRITISH COLUMBIA.

equipment), runs as far south as Trail, connecting at Nakusp with a branch line of the Canadian Pacific Railway into the Slocan, and at Robson with another branch of the same Company into Nelson, along the Kootenay River, and at Trail with the Columbia and Western to Rossland. Second.—From the south, from Spokane, Washington, where direct connections are made from the main trunk lines of the Great Northern and Northern Pacific Railways to all parts of the United States, the Spokane Falls and Northern Railway runs north to Northport, a few miles south of the boundary line, whence—(a) This road, known as the Nelson and Fort Sheppard Road, follows up the east bank to Waneta and Sayward, in Canadian territory, and thence across to Nelson, connecting directly with the Kootenay Lake steamers at a point five miles east of Nelson, whence the road switchbacks into the town. (b) From Northport, another branch of the Red Mountain Railway, crossing the Columbia by large ferries, runs to Rossland. (c) While daily steamers run up the river to Trail, from which point again Rossland is reached, or the steamers taken for Robson, Nakusp and Arrowhead, as detailed above.

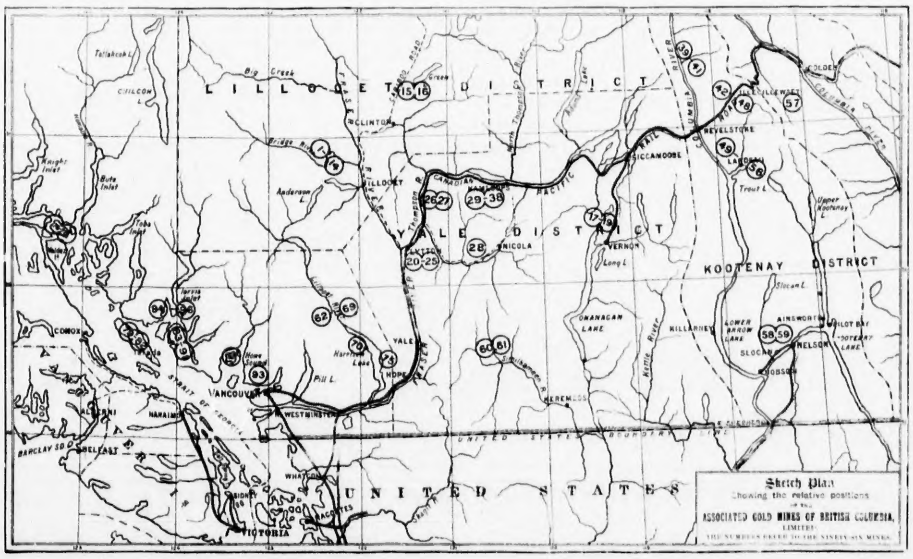
The agent of the Canadian Pacific Railway, 67, King William-street, E.C., has courteously supplied most of the particulars and the illustrations given in this article. The Company also has done much to diffuse authentic information throughout the United Kingdom on the climate, the products, the mineral resources, the trade, fisheries, and the general development of the Province, with particulars as to the acquisition of land, the location of towns, travelling and banking facilities, and other matters of interest to travellers and settlers. The City of Vancouver, the terminal point of the Canadian Pacific Railway, has, of course, largely participated in the recent extraordinary development. It is the chief city on the mainland portion of British Columbia. It is very picturesquely situated on Burrard Inlet, with the salt water on three sides of it, and backed by ranges of mountains. The inlet affords unlimited space for seagoing ships, the land falls gradually to the sea, rendering drainage easy, and the situation permits of indefinite expansion of the city in two directions. It has an inexhaustible water supply brought across the inlet from a river in a ravine of one of the neighbouring heights. The Canadian Pacific Railway was completed to Vancouver in May, 1887, when the first through train arrived in that city from Montreal, Port Moody having been the western terminus from July of the preceding year. The distance from Vancouver to Montreal is 2,906 miles, and to Liverpool, 5,713. Steamers run to Australia, Japan and China, and the city has communication with all important places along the coast.

Victoria is the capital of British Columbia and the chief city on Vancouver Island. It was formerly a stockaded post of the Hudson's Bay Company and was then called Fort Victoria. It is delightfully situated on a small arm of the sea, commanding a superb view of the Straits of San Juan de Fuca, the Olympian range in Washington, the mountains of the mainland, the snow-capped Mount Baker in the distance. The city's age may date from 1858, when the discovery of gold on the mainland brought a rush of miners from the south. It is now a wealthy, well-built, and very English city, with business and shipping interests of great importance. Three lines of trans-Pacific steamers call at this port. Victoria is pre-eminently a place to delight tourists, and has ample accommodation for a large floating population, having several comfortable hotels. Various public buildings are also worthy of more than passing notice, the new Government buildings, costing $800,000 when completed, especially being an imposing structure. Many of the manufacturing interests of the Province are centred at Victoria. It has one of the largest iron works on the Pacific Coast outside San Francisco, and several smaller foundries and machine shops, and many factories. The city is amply provided with educational facilities, both public and private.

Other great commercial centres are springing up along the railway. It will be understood that in mining districts what is a village one year becomes very rapidly a large town. With the growth of mineral discoveries there will be, before long, many new towns enjoying all the conditions of modern civilisation in districts which are at present unexplored.

Free schools exist throughout the Province. The means of elementary instruction keep pace with the growth of the population. Nor are the more sparsely peopled districts neglected. Wherever a minimum daily attendance of at least ten pupils can be secured, the Government supplies a certificated teacher, so that there is scarcely a settlement in the country too small or too scattered for the advantages of a common school education to be afforded. Last year's return gives over 200 public schools throughout the Province, educating about 16,000 children. About one-fifth of the total revenue is thus disbursed, besides large annual grants from the Department of Lands and Mines for the erection of school buildings. The salaries of teachers in cities are defrayed out of municipal rates, which also support high schools.

In the early days, during the first mining "boom," and prior to the opening of the Canadian Pacific Railway, the cost of living was high. Growing competition and increased facilities for transportation by land and water have lowered the prices of the necessaries of life, which cost no more at the present time than in the adjacent United States territory. They can be purchased at a moderate advance upon the prices ruling in the markets of Ontario and Eastern Canada.



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